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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,645	02/25/2005	Andrea Nascimbene	2483-50	8462
23117	7590	10/21/2005		
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER KHAN, SUHAIL	
			ART UNIT	PAPER NUMBER
			2686	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/525,645	NASCIMBENE ET AL.	
	Examiner	Art Unit	
	Suhail Khan	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/25/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-11 and 13 rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent App. No. 2002/0122406 to Chillariga et al.

Referring to **claim 1**, Chillariga et al disclose a method of network planning (page 10, paragraph 105, allows network operators to increase network capacity) for a mobile network infrastructure comprising a switch site (page 6, paragraph 69 and figure 1; MSC is interpreted as being the switch site) connected to a plurality of Hub sites (page 6, paragraph 70 and figure 1; BSC is interpreted as being the Hub site; also, page 9, paragraph 101, BSCs) that are connected to a plurality of radio base stations (RBSs) sites (page 6, paragraph 69, BTS), wherein the mobile network is arranged to provide wireless data and voice services (page 6, paragraph 73, voice or data) to access terminals (page 6, paragraph 69 and figure 1; zone managers) in a way that the overall system quality is improved by improving the frequency reuse for said mobile network infrastructure characterized by (page 10, paragraph 105, frequency reuse, increase network capacity), connecting the Hub sites to the RBs using combination of point-to-point links and point-to-multipoint links (page 4, paragraph 36, broad cast channels - point-to-multipoint, dedicated channels - point-to-point).

Art Unit: 2686

Referring to **claim 5**, Chillariga et al disclose a method according to claim 1 wherein the network planning includes a first RBS site is connected to a second RBS site by means of a point-to-point terminal (figure 1; page 6, paragraph 73, dedicated channels include control and traffic channels) such that the access terminal, co-located with the second RBS site, routes the traffic from both the first RBS site and the second RBS site to the Hub site (page 7, paragraph 83, zone managers control switching) such that the first RBS site is less affected by co-channel interference (page 10, paragraph 105, reduction in interference levels).

Referring to **claim 6**, Chillariga et al disclose a method according to claim 5 wherein the spectrum usage is minimized by means of the angular antenna discrimination in conjunction with the traffic route diversity (page 10, paragraph 105, antennas are used for switching, results in power control, reduction in interference levels).

Referring to **claim 7**, Chillariga et al disclose a method according to claim 1 wherein the RBSs are replaced by business users receiving and running high bit-rate Business Access applications (page 4, paragraph 33, High Speed Circuit Switched Data).

Referring to **claim 8**, Chillariga et al disclose a mobile network comprising a switch site page 6, paragraph 69 and figure 1; MSC is interpreted as being the switch site) connected to a plurality of Hub sites (page 6, paragraph 70 and figure 1; BSC is interpreted as being the Hub site; also, page 9, paragraph 101, BSCs) that are connected to a plurality of radio base stations (RBSs) sites (page 6, paragraph 69, BTS), wherein the mobile network is arranged to provide wireless data and voice services (page 6, paragraph 73, voice or data) to access terminals (page 6, paragraph 71, MS) such that service quality is improved and interference reduced characterized in that (page 10, paragraph 105, frequency reuse, increase network capacity, reduction in interference levels), the Hub sites are connected to the RBS sites using combination

Art Unit: 2686

of point-to-point links and point-to-multipoint links (page 4, paragraph 36, broad cast channels - point-to-multipoint, dedicated channels - point-to-point).

Referring to **claim 9**, Chillariga et al disclose a mobile network according to claim 8 wherein the point-to-point links and point-to-multipoint links are any one of radio microwave links, fiber optic lines, or copper lines (page 4, paragraph 36, broad cast channels - point-to-multipoint, dedicated channels - point-to-point; page 1, paragraph 2, microwave links).

Referring to **claim 10**, Chillariga et al disclose a mobile network according to claim 8 wherein the point-to-point link to the terminals are achieved by use of radio antennas having high angular discrimination for reducing the interference (page 4, paragraph 36, dedicated channels - point-to-point; page 10, paragraph 105, antennas are used for switching, results in power control, reduction in interference levels).

Referring to **claim 11**, Chillariga et al disclose a mobile network connected to a second RBS site according to claim 8 wherein a first RBS site is by means of a point-to-point terminal (figure 1; page 6, paragraph 73, dedicated channels include control and traffic channels) such that the access terminal, co-located with the second RBS site, routes the traffic from both the first RBS site and the second RBS site to the Hub site (page 7, paragraph 83, zone managers control switching) such that the first RBS site is less affected by co-channel interference (page 10, paragraph 105, reduction in interference levels).

Referring to **claim 13**, Chillariga et al disclose a mobile network according to claim 8 wherein the RBSS can be replaced by business users receiving and running high bit-rate Business Access applications (page 4, paragraph 33, High Speed Circuit Switched Data).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent App. No. 2002/0122406 to Chillariga et al in view of U.S. Patent App. Pub. No. 2002/0145988 to Dahlman et al.

Referring to **claim 2**, Chillariga et al disclose a method according to claim 1 wherein the point-to-multipoint link is a microwave link (page 4, paragraph 36, broad cast channels - point-to-multipoint; page 1, paragraph 2, microwave links). Chillariga et al also disclose frequency reuse (page 4, paragraph 31) and dedicated channels (page 4, paragraph 36). Chillariga et al do not disclose that the link is deployed with a frequency reuse of one requiring use of only a single wideband channel. The examiner maintains that the concept that the link is deployed with a frequency reuse of one requiring use of only a single wideband channel was well known in the art as taught by Dahlman et al.

In a similar field of endeavor, Dahlman et al show a wideband CDMA cellular system with a frequency reuse of one (page 2, paragraph 9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show that the point-to-multipoint link is a microwave link and is deployed with a frequency reuse of one requiring use of only a single wideband channel,

Art Unit: 2686

as taught by Dahlman et al, the motivation being reducing interference (Dahlman et al, page 2, paragraph 9).

Referring to **claim 3**, Chillariga et al disclose a method according to claim 1 wherein the point-to-point link is a microwave link (page 4, paragraph 36, dedicated channels - point-to-point; page 1, paragraph 2, microwave links). Chillariga et al do not disclose using a portion of the point-to-multipoint frequency block consisting of a single wideband channel, without using a dedicated frequency, thus having a reuse of one. The examiner maintains that the concept of using a portion of the point-to-multipoint frequency block consisting of a single wideband channel, without using a dedicated frequency, thus having a reuse of one was well known in the art as taught by Dahlman et al.

In a similar field of endeavor, Dahlman et al show a wideband CDMA cellular system with a frequency reuse of one (page 2, paragraph 9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show that the point-to-point link is a microwave link and uses a portion of the point-to-multipoint frequency block consisting of a single wideband channel, without using a dedicated frequency, thus having a reuse of one, as taught by Dahlman et al, the motivation being reducing interference (Dahlman et al, page 2, paragraph 9).

Referring to **claim 4**, Chillariga et al disclose a method according to claim 2 wherein the interference within a portion of the point-to-multipoint covered sector is reduced by choosing either a point-to-multipoint or a point-to-point terminal (page 4, paragraph 36, broad cast channels - point-to-multipoint, dedicated channels - point-to-point) as a function of the C/I value in each location (page 9, paragraph 93, radio link information incorporates radio link conditions such as carrier-to-interference ratio), thereby improving spectrum efficiency and the system

Art Unit: 2686

quality (page 10, paragraph 105, power control, reduction in interference levels, increase network capacity, throughput).

Referring to **claim 12**, Chillariga et al disclose a mobile network according to claim 8 wherein the point-to-point link is a microwave link (page 4, paragraph 36, dedicated channels - point-to-point; page 1, paragraph 2, microwave links). Chillariga et al do not disclose using a portion of the point-to-multipoint frequency block consisting of a single wideband channel, without using a dedicated frequency, thus having a reuse of one. The examiner maintains that the concept of using a portion of the point-to-multipoint frequency block consisting of a single wideband channel, without using a dedicated frequency, thus having a reuse of one was well known in the art as taught by Dahlman et al.

In a similar field of endeavor, Dahlman et al show a wideband CDMA cellular system with a frequency reuse of one (page 2, paragraph 9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show that the point-to-point link is a microwave link and uses a portion of the point-to-multipoint frequency block consisting of a single wideband channel, without using a dedicated frequency, thus having a reuse of one, as taught by Dahlman et al, the motivation being reducing interference (Dahlman et al, page 2, paragraph 9).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to point-point and point-multipoint communication.

U.S. Pat. App. Pub. No. 2002/0090979 to Sydor

Art Unit: 2686

U.S. Pat. No. 6735452 to Foster, Jr. et al

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suhail Khan whose telephone number is (571) 272-7910. The examiner can normally be reached on M-F from 8 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached at (571) 272-7905.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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